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## Workplace Bullying/Interpersonal Conflict, Job Stress, Coworker Support and Hypertension Among Women

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# Walden University

College of Health Professions

This is to certify that the doctoral study by

Kia Williams

has been found to be complete and satisfactory in all respects,  
and that any and all revisions required by  
the review committee have been made.

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Walden University  
2021

Abstract

Workplace Bullying/Interpersonal Conflict, Job Stress, Coworker Support and

Hypertension Among Women

by

Kia Williams

MPH, Drexel University, 2017

BS, Rutgers University, 2015

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

Walden University

August 2021

## Abstract

Interpersonal conflict in the workplace, such as workplace bullying, is recognized as a growing public health issue that could lead to poor health outcomes like hypertension among women workers. However, there is limited research on the role that interpersonal conflict, as well as other job-related factors such as job stress and coworker support, may collectively have on hypertensive outcomes among minority women workers, specifically in younger age groups. The purpose of this cross-sectional quantitative study was to examine the extent to which certain job risk factors (interpersonal conflict, job stress and coworker support) were associated with being treated for hypertension among women workers in the United States. The theoretical frameworks for this research were the social cognitive theory and social dominance theory. Data for this research were extracted from the 2011-2014 MIDUS Refresher study which surveyed a national sample of 3,577 U.S. adults aged 25 to 74. To address the research questions for this study, the data were analyzed by using a binary logistic regression and multiple logistic regression. The results showed that there was no significant association between the predictors (not getting along with someone at work, coworker help/support, ongoing stress at work) and being treated for hypertension among women workers. However, while controlling for age and race, age was significant. Findings from this study may be used to help promote positive social change through strategies and programs that encourage healthier workplace cultures for minority and younger working women.

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## Dedication

I would like to dedicate this doctoral study to my family. My twin sister Kayla, you have been by my side throughout this entire process. I thank you for always being there to lean on, to lift my spirits, and for being my best friend. To my Dad and Mom, you both have encouraged me to always strive for excellence and do my absolute best. I appreciate everything you have done for me. I hope I have made you proud. To my brothers, thank you for being my biggest cheerleaders. To all my family, I could not have completed this doctoral journey without your prayers, love, and support.

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## Section 1: Foundation of the Study and Literature Review

### **Introduction**

Workplace bullying is an occupational health issue that many workplaces in the United States should address. Although workplace bullying can be regarded as an emerging public health research topic, the prevalence of workplace bullying suggests that it has become far too common and requires intervention(s) from employers including state or local governments (Manners & Cates, 2016). For example, as of 2017, approximately 60 million Americans have been impacted by workplace bullying in some way, and close to 20% of U.S. employees reported that they were bullied directly (Namie, 2020). The continuous mistreatment that bullied employees experience can be emotionally/psychologically and physically damaging, which can potentially have long-term effects.

Some health issues include, but are not limited to, anxiety, depression, sleep disturbances, and stress, as well as other long-term medical complications such as cardiovascular disease and diabetes (Feijó et al., 2019). Cardiovascular disease specifically is a common cause of deaths for Americans, particularly among minorities and women, and typically develops due to elevated blood pressure (Balfour et al., 2015; Wegner et al., 2018). Additionally, in young adult populations, hypertension is relatively common and impacts close to 15% of adults aged 20 to 40 (Hinton et al., 2019). When poorly managed and uncontrolled, high blood pressure or hypertension can be a precursor to serious health problems, such as kidney disease, which could have significant influence on the livelihood of workers (Mucci et al., 2016). For example, in respect to the

workplace, these health consequences collectively can lead to absenteeism, unpaid wages, low job satisfaction, and loss in productivity, which can pose an economic burden on bullied workers and the organizations for which they work (Pheko, 2017). Comparable to other nations, billions of dollars are spent in the United States due to employee costs from workplace bullying (Manners & Cates, 2016). Yet, unlike the United States, other countries around the world have instituted legal ramifications to address bullying in the workplace (Richardson et al., 2016). As a result of bullying in the workplace, social, economic, and health implications that occur may not only be detrimental to employees and employers but also society as a whole.

Workplace bullying is defined as abusive repetitive behavior that involves humiliating, intimidating, excluding, or sabotaging an individual(s) in the workplace (Nielsen & Einarsen, 2018). Workplace bullying is related to other phenomena and work-related behaviors like workplace harassment and interpersonal or relationship conflicts (Notelaers et al., 2018). As it relates to the latter, the relationships or interactions that individuals have in the workplace can have a significant impact on the organization. For instance, conflicts overtime between colleagues that are hostile or intimidatory in nature can often escalate into bullying behavior (Baillien et al., 2017). Conflicts in the workplace could potentially worsen work relationships and is therefore an aspect of workplace bullying that should not be understated.

For these reasons, researchers describe bullying in the workplace as a pervasive and potentially harmful occupational health stressor that could leave many victims vulnerable to adverse health, economic and work-related outcomes as described (Nielsen

& Einarsen, 2018). Those who witness bullying, also referred to as bystanders, can play a pivotal role in reporting, intervening providing support to victims in a bullying situation (Sprigg et al., 2019). Although, they are not the target of bullying, they too can experience stress related outcomes like bullied employees (Sprigg et al., 2019). Whether directly or indirectly affected by bullying, members of an entire organization are at risk when bullying is present.

Researchers explored several factors that could help explain why workplace bullying occurs in organizations (Li et al., 2019). Some of these determinants include occupational factors such as job characteristics or design, psychological safety, leadership, or management styles (Ågotnes et al., 2017). This notion is rooted from the ‘work environment hypothesis’ which suggests that the environment of a workplace can predict bullying (Li et al., 2019). For example, it has been supported that bullying is associated with working conditions where employees have a higher workload and conflicting job demands, which could be stressful (Pheko et al., 2017). Researchers reported that workplace bullying is likely to exist in work climates that have poor psychological safety and laissez-faire leadership styles. Glambek et al. (2018) assert that authoritative figures in the workplace that have laissez-faire type leadership styles are less likely to address or de-escalate bullying situations, which could increase job insecurity among bullied employees. Given the outcomes of poor or ineffective leadership in the workplace other characteristics of a job or position could be examined when it comes to bullying incidents.

Job type and position are also elements that have been considered as determinants of workplace bullying (Li et al., 2019). For instance, job sectors such as healthcare and job positions that lack autonomy or authority are found to have higher bullying cases (Trépanier et al., 2016). Jobs or roles such as these could be considered high stress and interpersonal conflicts between employees may in some cases develop (Zahlquist et al., 2019). Thus, work environments, particularly those that are stressful in nature, are an important aspect to consider. Yet other possible explanations for workplace bullying are worth examination.

An employee may be more likely exposed to workplace bullying than others. Based on the ‘individual dispositions hypothesis’ it is suggested that individual factors such as personalities or demographics of employees can predict workplace bullying outcomes (Reknes et al., 2019). For example, bullied employees are reported to have low self-esteem, lower confidence in their position, and lack of social support and are therefore likely to experience bullying (Nielsen et al., 2017). Perpetrators contrarily are found to have aggressive behavior (Nielsen et al., 2017). In spite of these personality differences, when bullying occurs in the workplace both the aggressor and victim have reached a point where they are unable to resolve a conflict (Baillien et al., 2017). Essentially, employees that are unable to get along with others could likely find themselves in bullying situations.

In recent studies, researchers have examined the role of demographic characteristics such as age, education, marital status, and the susceptibility to workplace bullying (Feijó et al., 2019; Xu et al., 2019). Compared to other ethnic/racial groups,



minorities and women are more likely to experience workplace bullying (Nielsen & Einarsen, 2018). As it relates to health outcomes, researchers have explained that conflict in the workplace is associated with cardiovascular disorders such as hypertension (Jacob & Kostev, 2017). As it relates to hypertension, coworker help/support, job stress, and interpersonal conflict in the workplace were therefore studied for this project.

From a positive lens, this study could underscore that workplace bullying is a matter that could have a long-standing health impact for women, particularly young minority women workers, and it should be further recognized. For example, due to stress related factors such as mistreatment in the workplace, minority women are at a greater risk for being diagnosed and dying from disorders like hypertension, especially at an earlier onset (Wegner et al., 2019). Minority women could use the information from this study as a resource to discuss and share the possible public health implications that workplace bullying/interpersonal conflicts could have in their communities, even at an early age. In turn, they may further this dialogue about workplace bullying in their own workplaces so that their colleagues are informed about the importance of resolving and managing conflicts. This project could therefore be used as a tool for empowering communities and encouraging others to support positive healthy work environments.

The information detailed above includes an introduction of this paper and the contribution to social change. For Section one of this project, this information is followed by the problem statement which describes the problem and addresses the gap in the literature, the purpose or intent of the study, research question(s) and hypotheses, and the theoretical frameworks. I then address the nature of the study which summarizes the

research design and methodology, the literature search strategy, and the literature review which encompasses related key concepts. The last few elements of this section include an overview of the definitions, assumptions, and delimitations; and then concludes with the significance and conclusions.

### **Problem Statement**

In the workplace it is possible that any employee may experience conflict with colleagues or bullying. Researchers have identified groups or individuals who may be susceptible to workplace bullying (Nielsen & Einarsen, 2018). As it relates to gender and race, women and racial/ethnic minorities have reported that they experience workplace bullying at a much higher rate than men and other racial groups (Attell et al., 2017). For instance, African American/Black women disproportionately encounter workplace mistreatment, which includes bullying and interpersonal conflict (McCord et al., 2018). In the REGARDS study, investigators found that compared to 8% of White women, 13% of Black women reported that they experienced workplace mistreatment (Fekedulegn et al., 2019). The researchers in this study also add that there are factors that could account for these racial/ethnic disparities such as age, education, income, and job position. As it relates workplace mistreatment, such as bullying, there are other contributing factors that could be taken into consideration.

Researchers argued that there is a strong association between mistreatment and discrimination (Velez et al., 2018). For instance, women and racial/ethnic minorities are likely to face not only bullying but also harassment or discrimination based on their gender and race (Harnois, & Bastos, 2018). Harnois & Bastos (2018) also cited that this

overlap of discrimination causes many women of color to become mentally and physically distressed. Similarly, as it was found in the seminal study conducted by Geronimus (1991) that African American/Black women are more likely to experience ‘weathering’ or wear and tear to the body because they are exposed to socioeconomic disadvantages. Thus, in this respect, minority women are essentially a double minority, and could potentially be more vulnerable to workplace stressors and poor mental and physical health, like hypertension, as a result.

In several studies, investigators have supported that employees who are bullied have increased stress levels (Mohanty & Mohanty, 2017). Gesselman et al. (2017) add to this notion by referencing that social relationships could potentially influence a person’s stress levels. Although, there are studies that have examined the role of stress and workplace bullying within this context, study populations that include minority women are relatively limited (McCord et al., 2018). For example, Attell et al. (2017) explained that social support from coworkers can act as a buffer against stress due bullying, and ultimately found that the women and racial/ethnic minorities in their study reported to have less coworker support. However, the researchers contended that research studies should further explore this area of workplace bullying and stress among minority populations (Attell et al., 2017).

This study built on existing research by providing an original perspective on how collectively bullying or not getting along with others, job stress, and the lack of coworker support in the workplace could potentially have a cardiovascular impact on women in the United States, particularly young minority women. For example, from a public health

standpoint, minority women are likely more susceptible to chronic diseases like hypertension (Geronimus, 1991). Although, researchers have explored the role of hypertension among minority women in varying age groups, very few studies have examined hypertension among younger minority women, especially within the context of the workplace (Wegner et al., 2019). This demographic is particularly important to consider because compared to other racial groups, younger women of color are likely to have hypertension at an early age which could ultimately lead to long term complications (Wegner et al., 2019). The implications that this could have for young minority women in the workforce should be considered, especially since they may be in the beginning stages of their career. Therefore, with this research, there may be additional insight on the role that the various job stressors, including bullying, may have on this persisting public health problem.

### **Purpose of the Study**

This was a quantitative research study, that examined the association between job stress, coworker help/support, not getting along with someone at work on being treated for hypertension among women workers. The primary aim of the study was to explore if these predictors would be more significant among young minority women. The independent variables studied included (a) coworker help/support, (b) problems getting along with someone at work, and (c) ongoing stress at work. Being treated for hypertension was the dependent variable. Although these factors have been explored separately, researchers have not thoroughly investigated how these factors collectively are associated with hypertension among minority women., particularly in younger age

groups. Thus, by analyzing these relationships together, this study provided a unique perspective about the role that multiple interpersonal factors in the workplace may have on being treated for hypertension, especially among an understudied population (Attell et al., 2016; McCord et al., 2018).

### **Research Questions and Hypotheses**

Research Question 1 (RQ1): Is there an association between not getting along with someone at work and being treated for hypertension among women workers (white vs nonwhite and young vs old)?

$H_{01a}$ : There is no association between not getting along with someone at work and being treated for hypertension among white vs nonwhite women workers.

$H_{11a}$ : There is an association between not getting along with someone at work and being treated for hypertension among white vs nonwhite women workers.

$H_{01b}$ : There is no association between not getting along with someone at work and being treated for hypertension among young vs old women workers.

$H_{11b}$ : There is an association between not getting along with someone at work and being treated for hypertension among young vs old women workers.

Research Question 2 (RQ2): Is there an association between coworker help/support and being treated for hypertension among women workers (white vs nonwhite and young vs old)?

$H_{02a}$ : There is no association between coworker help/support and being treated for hypertension among white vs nonwhite women workers.

*H<sub>12a</sub>*: There is an association between coworker help/support and being treated for hypertension among white vs nonwhite women workers.

*H<sub>02b</sub>*: There is no association between coworker help/support and being treated for hypertension among young vs old women workers.

*H<sub>12b</sub>*: There is an association between coworker help/support and being treated for hypertension among young and vs women workers.

Research Question 3 (RQ3): Is there an association between ongoing stress at work and being treated for hypertension among women workers (white vs nonwhite and young vs old)?

*H<sub>03a</sub>*: There is no association between ongoing stress at work and being treated for hypertension among white vs nonwhite women workers.

*H<sub>13a</sub>*: There is an association between ongoing stress at work and being treated for hypertension among white vs nonwhite women workers.

*H<sub>03b</sub>*: There is no association between ongoing stress at work and being treated for hypertension among young vs old women workers.

*H<sub>13b</sub>*: There is an association between ongoing stress at work and being treated for hypertension among young vs old women workers.

### **Theoretical Foundation of the Study**

The theoretical frameworks used in this study were the social cognitive theory (SCT) and social dominance theory (SDT). Also referred to as the social learning theory (SLT), the SCT was developed by Albert Bandura to explain that an individual's behavior can be influenced by his/her own experiences, the environment, and the

behavior of others (Consiglio et al., 2016). From a social context, the SCT places an emphasis on the notion that a particular social environment can shape or change a person's behavior (Consiglio et al., 2016). This concept relates to the SCT construct observational learning, which suggests that people model a particular behavior when they observe it from others (Coetzee & van Dyk, 2018). Essentially, as it relates to this study, when there is evidence of interpersonal conflict between employees it is likely to have an impact on others in the workplace. Researchers Sidanius & Pratt developed the SDT which also examines social influences (see Goodboy et al., 2016).

The SDT posits that in some social relationships or organizations, group-based hierarchies or inequalities are present (Goodboy et al., 2016). Essentially, this theory, considers that subordinate groups in social organizations may be treated unequally compared to others. Employees that are in positions of less power are likely to be more vulnerable to workplace mistreatment. Yet, bullying can exist between employees in all organizational levels. Studies have reinforced the notion that power in the workplace is complex (Nielsen & Einarsen, 2018). For this reason, there are different sources of organizational power, either formal or informal, that need to be considered. For example, in most workspaces, organizational power often lies among those in leadership such as managers or supervisors, and as it relates to bullying this relationship is considered to be formal power and referred to as downward bullying (De Cieri et al., 2019). In other instances, horizontal and upward bullying may occur in which coworkers and subordinates respectively are considered the perpetrators of bullying behavior (Nielsen & Einarsen, 2018). In this respect, the supportive working relationship that employees often

have with their coworkers may less likely exist which can induce job stress and hypertension.

Researchers argued that the complexity of bullying behavior can be understood from theoretical frameworks such as the SCT and SDT (Goodboy et al., 2016). For instance, the SCT can be applied to show that the social interactions between individuals in a workplace can contribute to either a negative or positive social environment, which could potentially influence health outcomes (Consiglio et al., 2016). Interventions that reference the SCT can be used to change bullying behavior, promote prosocial interactions with others and ultimately a healthier workforce.

Additionally, in respect to workplace bullying, the SDT puts into perspective that workplaces can perpetuate group-based dominance (Pheko, 2018). Given that social hierarchies can be apparent in workplaces, bullying behavior can therefore occur (Goodboy et al., 2016). For instance, social or cultural ideologies such as gender roles can be recognized, and certain groups are likely to have more dominance over others (Pheko, 2018). Also, in some instances, Richeson & Sommers (2015) indicated that dominant groups or hierarchies are socially constructed by age or race/ethnicity. As it relates to the latter, racial/ethnic minorities are often regarded and treated as subordinate (Pheko, 2018). Richeson & Sommers (2015) acknowledged that ideologies such as these are often used to justify why subordinate groups do not have an equal share of resources, such as higher job positions, more job control, or income. The SCT & SDT could therefore be used to help explain how minority women particularly experience harassment, discrimination, and stress in the workplace more than other racial groups;



and most importantly why racial health disparities like hypertension would likely exist (Assari & Bazargan, 2019; Felix et al., 2019).

### **Nature of the Study**

For this project, a quantitative correlational study was used to assess whether there will be a significant association between coworker help/support, getting along with someone at work, and job stress among young minority women. To do so, relationships were explored between the following independent variables (coworker help/support, problems getting along with someone at work, ongoing stress at work) and the dependent variable (being treated for hypertension) was explored among women workers in the United States. The secondary analysis was conducted by using a nationally representative survey data collected from the Midlife in the United States (MIDUS Refresher), 2011-2014 study conducted by the National Institute on Aging.

### **Literature Search Strategy**

To conduct the literature review for this project, I used search engines and databases found in the Walden University Library which included Academic Search Complete, Science Direct, EbscoHost, Google Scholar, SAGE Journals, Thoreau Multi-Database Search and ProQuest. Key search terms or concepts that were used in the search included the following: *workplace bullying*, *workplace stress*, *workplace bullying and stress*, *interpersonal conflict* and *workplace bullying, interpersonal conflict at work*, *workplace mistreatment*, *workplace bullying and race*, *bullying and race*, *workplace bullying and gender*, *workplace bullying and women*, *workplace bullying and minorities*, *workplace bullying and African Americans*, *workplace bullying and African*

*American/black women, social cognitive theory, and social dominance theory, hypertension or high blood pressure and workplace conflict, hypertension or high blood pressure and workplace bullying, hypertension or high blood pressure and workplace stress, workplace/job stress and young adults, and young adults and hypertension or high blood pressure* . The research articles selected were peer-reviewed, written in English, and published within the last 5 years starting from 2016. However, articles and non-peer-reviewed publications that outlined the theoretical frameworks of this study were written before 2016 and were also included. Other literature sources referenced in this project included organizational websites such as the Workplace Bullying Institute, which were used to search for workplace bullying and stress related data.

However, when searching the relationship between workplace bullying and interpersonal conflict, there were limited studies available. This was handled by searching the effect that interpersonal conflict and mistreatment has on employees and the workplace as a whole. Similarly, current research about workplace bullying and its impact on African American women was sparse. For this reason, I identified this area as a gap in the workplace bullying literature. Also, to address this issue, literature related to workplace bullying and minorities or women in general were referenced.

### **Literature Review Related to Key Variables and Concepts**

This section of the literature review provides an overview of the variables and concepts related to workplace bullying, interpersonal conflict, and its relationship to stress and hypertension. Key concepts that were examined included: health outcomes, race/ethnicity, gender, coworker support, and age. By reviewing the existing literature

about relevant concepts, the association between bullying or interpersonal conflict, job stress, and coworker support and hypertension among women was explored.

### **Workplace Bullying and Health Outcomes**

Studies have shown that workplaces can have a significant influence on the health outcomes of employees (Nielsen & Einarsen, 2018). This is often dependent on the culture of an organization, the organizational structure, and workplace type or setting (Nielsen & Einarsen, 2018). Cieri et al. (2019) explained that workplace characteristics such as these can perpetuate a common workplace issue known as bullying. Individuals can be subjected to bullying due to work-related stressors such as an excessive workload or job insecurity and also person-related factors that may involve teasing or scolding (Vishwakarma et al., 2018; Van den Brnade et al., 2017). Bullying can also occur indirectly when bullying victims are socially isolated from others (Cieri et al., 2019). Employees that experience workplace bullying may experience trauma, which could have a negative impact on their physical, mental, and social well-being (Maidaniuc-chirila & Duffy, 2017).

Researchers (Mucci et al., 2016) indicated in their research that there are several health implications, such as poor cardiovascular health, associated with repeated job stress. Over time elevated blood pressure can cause significant damage to internal arteries and ultimately the heart, which could result in early death (Liu et al., 2017). Although, there are many underlying factors, such as age or diet, that may cause hypertension researchers have found that stressors in the workplace, like bullying or conflict, can increase an employee's risk for hypertension (Jacob & Kostev, 2017). Given that some

Americans, especially minorities, are diagnosed with hypertension it may be important to consider the role that this disorder may have on minority workers in stressful workspaces (Balfour et al., 2015). This is particularly meaningful among African American/Black women because as it relates to cardiovascular risk factors, they are likely to face greater health and psychosocial burdens such as obesity, inadequate care, and lower socioeconomic status which could ultimately lead to premature death (Felix et al., 2019).

When bullying is present in an organization, those who are bullied have greater psychological distress compared to those who are not bullied (Nielsen et al., 2012). Researchers Maidaniuc-chirila & Duffy (2017) conclude that by being exposed to bullying, bullying victims develop symptoms that are similar to cases of post-traumatic stress disorder (PTSD) which include anxiety, depression, and sleep disturbances. This can lead to further PTSD related symptoms in which victims re-experience the bullying behavior through nightmares or flashbacks (Maidaniuc-chirila & Duffy, 2017). In cross-sectional studies psychosomatic symptoms such as musculoskeletal issues are common (Vishwakarma et al., 2018). Adding to this point, authors conducted a cross-sectional study among employees in Italy, and found that poor environmental factors in the workplace, as described above, can lead to severe stress reactions and post-traumatic symptoms (Balducci et al., 2011).

Yet, Maidaniuc-chirila & Duffy (2017) suggest that studies should also examine workplace bullying longitudinally, so that mental health outcomes can be measured over time. For instance, in a longitudinal study, researchers investigated whether there is a relationship between psychological distress and workplace bullying among a Norwegian

workforce (Nielsen et al., 2012). Based on the results, the authors reported that exposure to bullying behavior and victimization from bullying increased the risk of psychological distress over time (Nielsen et al., 2012). As it relates to the latter, the authors used the theory of cognitive trauma to explain that after being bullied, victims are likely to perceive the work environment and life as threatening or unjust which can increase anxiety levels (Vishwakarma et al., 2018).

It is common for bullying victims to experience psychological and physical stress reactions such as anger, hyperarousal, and fatigue (Nielsen & Einarsen, 2018). Nolfé et al. (2018) supported this finding by arguing that similar to individuals with post-traumatic stress disorders, employees that are bullied are at risk for brain dysfunction and aging. In their analysis, Nolfé et al. (2018) examined the relationship between brain images and work stress and found that among workplace bullying victims, there were brain changes and abnormalities. In essence, bullied employees may not only face physical and psychological disturbances but also cognitive impairment (Nolfé et al., 2018).

To some extent when bullying is present in the workplace, victims may not only lose their job but also may have challenges finding a new one due to chronic stress (Khalique et al., 2018). For example, Giorgi et al. (2016) conducted a cross-sectional study to examine the relationship between psychological distress and self-management ability among bullied employees and found that they were more impulsive and less able to make decisions compared to nonbullied employees. Workers that have self-management skills have the ability to not only control their emotions but also can

effectively communicate and problem solve, which is critical for high job performance and productivity in the workplace (Giorgi et al., 2016). The authors therefore concluded that due to the stressful nature of workplace bullying, self-management skills among bullied workers essentially become impaired (Giorgi et al., 2016). Although, it is confirmed in several empirical studies that negative health outcomes such as stress are associated with workplace bullying, very few studies however have examined this specifically among minority women (Attell et al., 2018). This study added to existing research by considering whether stress related outcomes due to workplace bullying or conflict are influenced by a woman's race.

### **Workplace Bullying and Employee Demographics**

#### ***Race/Ethnicity***

Eboh et al. (2018) explained that workplace diversity is a concept that can be used to describe the racial/ethnic, gender or social backgrounds of employees in an organization. The authors further added that workers may have different ethnic, gender, or social identities and this can in some ways influence their workplace culture and environment (Eboh et al., 2018). For example, one of the assumptions of workplace diversity is that employees work collectively and are tolerant of the differences of others. However, in a diverse workplace, it is possible for workers to perpetuate prejudicial and discriminatory practices. Racial/ethnic minorities disproportionately face these types of workplace stressors (Ray, 2019). For this reason, Ray (2019) argued that organizations should therefore be described as racialized structures because racial inequalities and hierarchies are likely to exist.

Researchers McCord et al. (2018), furthered the notion that organizations or workplaces have an underlying racial structure because of the perceptions that racial/ethnic minorities may have about workplace mistreatment. When workers are mistreated by their colleagues or superiors it creates a hostile work environment, which ultimately causes many victims to have job and life dissatisfaction (Nauman et al., 2019). Yet, McCord et al. (2018) argued that compared to other racial groups, racial/ethnic minorities may perceive mistreatment at work quite differently. For example, historically in the United States, there have been instances in which individuals have been stigmatized based on their racial/ethnic background (Ray, 2019). McCord et al. (2018) explained that minorities are particularly associated with negative racial stereotypes, which can influence the way that they are treated. The researchers added that because minorities belong to a stigmatized group, they would not only recognize but also perceive workplace mistreatment, such as bullying, more than others (McCord et al., 2018).

Attell et al. (2018) presented the argument that in prior research, researchers contended that bullying is a phenomenon that goes beyond race or gender. However, Attell et al. (2018) emphasized that in a few recent studies, researchers examined racial differences among those who were bullied in the workplace and found that racial minorities were more likely to report being bullied compared to their counterparts. Given that racial/ethnic minorities are more affected by workplace bullying, ethnicity/race is a component that should be further investigated, especially within the context of stress disorders such as hypertension. For instance, Attell et al. (2017) asserted this notion by noting that, compared to White employees, African American/Black workers are likely to

experience more stress because they may feel less compelled to share their feelings about mistreatment with others at work. Assari et al. (2019) also indicated that African Americans are likely to have either lower or more stressful positions, which can be attributed to structural racism and discrimination. Although, perceptions regarding workplace bullying may not be the same for everyone, this study added to existing research by measuring whether interpersonal conflict, coworker support, and job stress could be precursors to hypertensive outcomes among certain minority groups in the workplace.

### ***Gender***

As it relates to bullying, studies have shown that the prevalence of workplace bullying would depend on factors such as gender (Salin & Hoel, 2013). Similar to race, gender differences and workplace bullying is an area that has been understudied in recent workplace bullying literature, especially as it relates health outcomes such as stress. Authors Harnois & Bastos (2018) therefore examined health and gender disparities by considering different forms of workplace treatment such as sexism, when women are discriminated against because of their gender. The researchers found that among women, discrimination and harassment had a negative health and mental health impact (Harnois & Bastos, 2018). McCord et al. (2018) explained that like racial/ethnic minorities, women have been traditionally subjected to negative stereotypes and attitudes that suggest that they are inferior to men. Sexism in some cases can manifest into interpersonal conflict or bullying in the workplace, which could have different health and work implications for men and women.



Women are often aware of gender biases, and therefore may likely report and perceive bullying behavior or mistreatment more than men (McCord et al., 2018; Velez et al., 2018). However, researchers McCord et al. (2018) found from their study that perceptions regarding workplace mistreatment, which included bullying, were relatively the same across gender. Yet, Nielsen & Einarsen (2018) argued that there is limited research knowledge to conclude which groups are more vulnerable to bullying compared to others. The authors contended that women are however at a higher risk for disability due to workplace bullying (Nielsen & Einarsen, 2018). This is more evident when the impact of workplace bullying is examined among minority women (Attell et al., 2017).

Velez et al. (2018) argued that compared to other groups, minority women are more likely to experience both racism and sexism in the workplace. As a racial and gender minority, minority women may experience workplace mistreatment and health outcomes uniquely different (Velez et al., 2018). For example, Attell et al. (2017) referenced the stress process theory to examine workplace bullying and psychological distress and whether there was a difference by race and gender. The researchers found that women and minorities were not only more impacted by workplace bullying, but also had less emotional support from their coworkers (Attell et al., 2018). This finding suggests that women and minorities are not only likely to experience more stress when they are bullied, but also do not have the support to appropriately cope with it (Attell et al., 2018). In several studies, researchers have encouraged further analysis on the impact of workplace bullying on women of color. This project helped fill this gap by examining

whether hypertension diagnosis would differ if minority women reported having coworker support.

### ***Coworker Support***

When there is ongoing conflict or mistreatment in the workplace, it would likely influence an employee's performance or commitment to the job (Payne et al., 2018). Employees that experience abusive treatment may less likely complete their tasks effectively due to negative working relationships and the lack of support (Payne et al., 2018). Tews et al. (2018) explained that coworker support and positive work relationships should not be understated, as it can contribute to declining job and health outcomes among current and even future employees. They also further asserted this notion by arguing that turnover was particularly high among new employees compared to experienced employees due to poor coworker support (Tews et al., 2018). This suggests that work relationships and support among workers is a fundamental aspect of an organization. In a study conducted by Baethge et al. (2020) the authors examined the relationship between coworker support and employee's heart rate during the workday and found that workers with coworker support were not only more resilient but also had a higher heart rate variability (HRV). Examining the association between coworker support and work conflict in my study, helped explain whether the support of coworkers, was a protective measure against hypertension for women.

### ***Age***

Researchers Macdonald & Levey (2018) argued that as it relates to the workplace, there is little research that discusses the relationship between age and mistreatment such

as bullying. Although, it is evident that workers may be discriminated against or mistreated because of their race or gender, Jones et al. (2017) claimed that ageism is also a pervasive issue. For example, Jones et al. (2017) indicated that ageist attitudes or beliefs may include referring to older workers as less willing to learn or describing younger employees as less dependable. Fekedulegn et al. (2019) highlighted that negative stereotypes about aging can translate into the workplace.

To examine the influence of aging in the workplace, the researchers conducted a longitudinal representative study to explore workplace mistreatment among middle-aged U.S. workers and found that workplace mistreatment was particularly significant among middle and old aged minority workers (Fekedulegn et al., 2019). The results from this study demonstrated that in respect to age there are sub-populations or groups that may be adversely impacted by workplace mistreatment (Fekedulegn et al., 2019). Jones et al. (2017) furthered this notion by arguing that as it relates to age, older employees that identify with a marginalized racial/ethnic group may be viewed in the workplace differently compared to older workers in dominant racial/ethnic groups. Mucci et al. (2016) provided another perspective in their study by examining the role that mental health disorders and job stress may have on hypertension diagnosis among young adult health professionals. The authors concluded that chronic work-related stress such as job strain and insecurity could possibly pose a significant cardiovascular risk for young working people. Van Schaaik et al. (2020) also adds that when younger workers experience occupational stress at an early stage in their career, over time it could potentially lead to unfavorable outcomes in their work life and overall life course.

Although, some work-related stressors have been explored among young adults, researchers suggest that other risk factors associated with health outcomes like hypertension should be further investigated among younger populations (Mucci et al., 2016). Therefore, in this study age was chosen as a control variable in order to see if it would have any influence on interpersonal conflict, job stress and hypertension among women.

### **Definitions**

*Coworker support:* A variable used to indicate that coworkers are considered a source of social support as it relates to workplace issues or concerns (Attell et al., 2018).

*Ongoing job stress:* Variable used to describe the negative physical and mental/emotional reactions that workers experience on a repetitive basis, which includes but not limited to high workload/job demands, conflicting responsibilities, and pressure (Bhui et al., 2016).

*Problems getting along with someone at work:* Variable that suggests that a worker has experienced negative interactions or conflicts with another employee in the workplace (McCord et al., 2018).

### **Assumptions**

One of the primary assumptions of this study was the likelihood that minority women will disproportionately be impacted by interpersonal conflict, job stress in the workplace and be treated for hypertension. Although, their perceptions regarding the work environment may be different, it is assumed, based on evidence found in the literature, that minority women will encounter mistreatment or harassment (McCord et

al., 2018). It is also a plausible assumption that minority women would be diagnosed with hypertension because they are more vulnerable to stress related health conditions (Mohanty & Mohanty, 2017). Additionally, the survey data in the MIDUS Refresher 2011-2014 was taken during and after the course of an economic recession, which could perhaps influence a participant's interest in the survey. Given that respondents of the survey had to participate in survey protocols, it was assumed that their answers are accurate and truthful. Another assumption was that the secondary data used in this study was valid and reliable. This was a probable assumption given that the researchers that facilitated this survey increased their sample size and used a nationally representative population. To evaluate the research questions a binary logistic regression was used and included the following assumptions: normality, linearity, and no multicollinearity. These assumptions were critical for analyzing the data in this survey population.

### **Scope and Delimitations**

The scope of this study was to test whether there would be an association between job stress, not getting along with someone at work and being treated for hypertension among women workers. I also tested whether support from workers could be a predictor of stress outcomes in the workplace. The study would only consider the responses of women in the workplace, so it would not be generalizable to women who are not employed. The focus of this research was based on the conclusion that the workplace is where most individuals spend the majority of their time and are therefore more likely subjected to stress or conflict with others, which could lead to poor health outcomes like hypertension. However, racial/ethnic differences associated with workplace conflict,

coworker support, job stress, and hypertension collectively has not been thoroughly studied among young adult women. Therefore, this study could provide additional context in this area.

Additionally, it is important to underscore that there could be a multitude of factors that could contribute to the racial health disparities of women workers, such as socioeconomic status or income. In the same respect, there could be other reasons besides job stress which can cause hypertension. Yet, age was a variable available in this secondary dataset and therefore another factor that I considered. The data collected in the MIDUS projects were considered comprehensive and included a nationally probable sample.

### **Significance, Summary, and Conclusions**

This research investigated the association between interpersonal conflict in the workplace, job stress and being treated for hypertension among women workers in the United States. A potential contribution of this study would be to determine if there is a significant association among young minority women workers. As it relates to workplace stressors such as stress and conflict, this research could provide further understanding on whether certain factors, more than others, may increase the risk for hypertension among young minority women. Also, researchers could potentially use this study to develop strategies or interventions to help mitigate racial health disparities among women in stressful workplaces. The implications for positive social and public health change of this study may be to improve workplace conditions such as interpersonal conflict and bullying, in order to help reduce stress, cardiovascular disease risk and ultimately early

mortality of minority women in the workplace. This information could be useful for future researchers and public health professionals that would like to acquire additional knowledge about the different workplace realities that minority women particularly may face on a frequent basis. From a public health practice perspective, the outcomes from this study could help reinforce the importance of implementing workplace interventions or programs that work towards identifying and managing interpersonal conflict. Most importantly, as it relates to public health policy, this research could be instrumental in the development of stronger workplace policies and/or procedures that address and protect workers from bullying behavior. In turn these interventions and policies could contribute to reducing health complications as a result of stress and bullying in the workplace. Doing so, could potentially lead to positive health outcomes for working women.

In the current literature, researchers have studied why bullying and interpersonal conflict in the workplace potentially develop, and its impact on the health and stability of workers and the work environment. Research findings have consistently shown that dysfunctional workplaces where there is poor leadership, role ambiguity and low coworker support could lead to not only aggressive work behavior but also stress and cardiovascular related disorders such as hypertension (Pheko et al., 2017; Jacob & Kostev, 2017). Additionally, in prior studies demographic factors such as educational attainment, job position level, and age of employees were considered. Although, some authors have examined the relationship between stress and mistreatment in the workplace among women employees, study populations that included minority women were particularly limited (Fekedulegn et al., 2019).

In a few recent studies it was found that African American/Black women were more likely to be mistreated or experience bullying, receive less coworker help/support and experience stress as a result (Attell et al., 2018). However, researchers have not further explored how these elements could be associated with hypertension among minority women. (Attell, 2018; Fekedulegn et al., 2019). This study added to existing literature by recognizing that together these factors in the workplace could contribute to hypertension among minority women workers specifically in younger age groups.

In conclusion, researchers have concluded in several studies that mistreatment in the workplace could lead to chronic health consequences such as hypertension. Even though there is research on how this could impact women, there is limited knowledge about the role that these work stressors may have on the health of minority women., especially those at a younger age. By exploring these areas in this study, researchers may further consider how the climate of the workplace could contribute to racial health disparities. From a public health context, the implementation of proactive workplace interventions that encourage coworker help/support and conflict management could potentially help improve the work and lives of minority workers. To highlight the importance of this research, Section 2 outlines the rationale of the research design and methods.



## Section 2: Research Design and Data Collection

### **Introduction**

Mistreatment in the workplace, such as bullying or interpersonal conflict, likely develops in stressful and unsupportive work environments (McCord et al., 2018). As a result, researchers have concluded that employees may be at risk for health complications such as hypertension (Mohanty & Mohanty, 2017). Hence, the purpose of this quantitative study was to examine the associations between interpersonal conflict at work, job stress, coworker help/support, and being treated for hypertension among women workers in the United States. The objective was also to determine whether these relationships would be more significant among young minority women workers. This section contains the methodology of the research which included the following: study population and size, sampling and procedures, study instrumentation and operationalization. The section concludes with a synopsis of the threats to validity, ethical considerations, and summary, respectively.

### **Research Design and Rationale**

For this research, I used a quantitative cross-sectional research design. The data collected was extracted from the MIDUS Refresher 2011-2014 survey dataset. I tested the association between the independent variables, coworker help/support, problems getting along with someone at work, and ongoing stress at work, and the dependent variable, being treated for hypertension.

In a quantitative research study, researchers use observed data and statistical analyses in order to test a theory or hypothesis about a particular population (Creswell &

Creswell, 2018). A research design that is often used in a quantitative research study is a cross-sectional study design (Creswell & Creswell, 2018). For a cross-sectional study design, the investigator would test the association between an outcome(s) of a disease and other variables or risk factors within a population at a point of time (Setia, 2016).

Similarly, for this study, I used a cross-sectional study design to examine whether there would be an association between job stress, coworker support, getting along with others, and hypertension among women workers surveyed.

I selected this research design because it could provide insight about the prevalence of hypertension among women workers that reported experiencing stress and interpersonal conflict at work (Bangdiwala, 2016). This design approach would be advantageous because I conducted a secondary analysis of existing data which is relatively cost-effective (Setia, 2016). Also, to conduct this research in a sufficient amount of time, it would be more feasible to use a cross-sectional design since it would not require repeated follow-up (Setia, 2016).

## **Methodology**

### **Population**

Data from the MIDUS Refresher survey was used for this study. A total of 3,577 adults in the United States between the ages of 25 and 74 participated in this study between 2011 and 2014. The target population for this research were women workers.

### **Sampling and Sampling Procedures**

In this study, I used publicly archived data from MIDUS national study. From 1995 to 1996 the original MIDUS study (M1) used phone interviews and self-

administered questionnaires (SAQ) to survey a national sample of noninstitutionalized, English speaking adults aged 25 to 74 in the coterminous United States. Participants were selected by random-digit dialing. The M1 study examined the midlife development of adults by collecting data on the social, physical, and mental health well-being of respondents. For this project I extracted data from the MIDUS Refresher study, which was conducted between 2011 and 2014 to refresh the M1 baseline cohort with a new national sample of noninstitutionalized English-speaking adults in the United States aged 25 to 74. Like the M1 study, respondents in the Refresher were asked to provide responses, through phone interviews and mailed SAQs about their socioeconomic information, health, and well-being as well as additional questions related to the 2008 economic recession.

The sample data included two independent samples of adults ( $N = 3,577$ ) recruited in two time periods. The younger decades (MRY) sample was surveyed between 2011-2012, which consisted of about 2,100 adults aged 25 to 54 living in residential housing units in the United States. Between 2013-2014, data collected from the older decades (MRO) sample, included approximately 1,400 adults aged 55 to 74 living in residential housing units in the USA. Participants were recruited using random digit dialing and the sampling frame were cellphones and landlines. The MRY and MRO samples were combined and weighted similarly to the Census Current Population Survey. Poststratified weights were used for demographic variables such as age, sex, and race. Based on the completed response rate created by the University of Wisconsin Survey Center, respondents that completed the phone interview ( $N = 3,577$ ) had a 59% response

rate. Those that completed the SAQ had a 73% response rate. Data from the MIDUS Refresher study was available for public use at the Inter-University Consortium for Political and Social Research (ICPSR).

To determine the sample size for this project a power analysis was conducted by using the G\*Power 3.1 Statistical Power Analysis software. The logistic regression statistical test was chosen. For parameters, I utilized a two-tailed analysis or two probability option for the effect size.  $H1$  represents the probability that respondents have been treated for hypertension, which was set at 0.4.  $H0$  denotes the probability that respondents have not been treated for hypertension, which was set at 0.3. A  $p$  value of 0.05 and power level of 0.80 or 80% were used. A power level set at 80% suggests that there is an 80% chance that the results in this study are significant (Creswell & Creswell, 2018). With these parameters the minimum sample size required for this study was 206.

### **Instrumentation and Operationalization of Constructs**

The MIDUS Refresher project, funded by The National Institute on Aging between 2011 and 2014, was a part of a series of longitudinal MIDUS studies that started in 1995/1996. The sample cohort used for the Refresher study was designed to replenish the original MIDUS sample. Participants in the Refresher project were recruited to participate in a 30-minute phone interview and two 50-page mailed self-administered questionnaires (SAQ), which included demographic and health related survey questions. The survey data was collected by staff at The University of Wisconsin Survey Center (UWSC). Phone interviews were conducted by using a computer-assisted telephone interviewing (CATI) instrument. The Refresher CATI and SAQ instruments were

developed by UWSC staff in 2011 and created comparably to the instruments used in prior MIDUS studies. The Refresher instruments included additional validity and limit checks. The information from the CATI and SAQ data entry instruments for this project were programmed to the Computer Assisted Survey Execution System (CASES) system, which is a survey data software system copyrighted by the University of California-Berkeley's Computer-Assisted Survey Methods Program. The CASES system tests for discrepancies and only recorded valid responses from the CATI and SAQ instruments. The variables used in this study can be referenced from the research questions in the MIDUS Refresher dataset. For this reason, the MIDUS Refresher dataset was the appropriate dataset for this research.

### **Operationalization of Variables**

Table 1 details the operationalization of variables and survey questions for the independent and dependent variables. In the survey, age was coded as the respondent's calculated age between the ages of 25 and 74 years old. For this project, age was operationalized and treated in SPSS as an ordinal categorical variable defined by age groups: young adults (25-40 years old), middle-aged adults (41-55 years old), and older adults (56-74 years old). Ethnicity was coded from the survey question "What are your main racial origins -- that is, what race or races are your parents, grandparents, and other ancestors?" Responses in the survey were coded as 1=*White*, 2=*Black and/or African American*, 3=*Native American or Alaska Native Aleutian Islander/Eskimo*, 4=*Asian*, 5=*Native Hawaiian or Pacific Islander*, and 6=*Other*. For this research, ethnicity was operationalized and treated in SPSS as a binomial/categorical variable. This operation

was chosen because separately the sample size for respondents that are Black and/or African American (8%), Native American or Alaska Native Aleutian Islander/Eskimo (2%), Asian (1%), Native Hawaiian or Pacific Islander (0.1%), and Other (7%) is relatively small compared to White respondents (82%). By grouping non-White women together, I could observe whether differences exist between nonwhite and white women workers. Therefore, responses were recoded as 0=*White* and 1=*Non-White*.

The independent variables were problems getting along with someone at work, ongoing stress, and coworker help/support. In the survey, problems getting along with someone at work was categorized as a binary variable and coded from the following question: “In the past 12 months, did you have any serious ongoing problems getting along with someone at work?” Respondents answered with either a yes or no response. This variable will be recoded as 0= *no*, 1= *yes*. Ongoing stress at work was a binary variable coded from the research question: “Have you had any other serious ongoing stress at work - things like consistently extreme work demands, major changes, or uncertainties that most people would consider highly stressful?” Responses were coded as 0= *no* and 1= *yes*. Coworker help/support was an ordinal variable that measured how often respondents received help and support from coworkers. In SPSS coworker help/support was treated as a categorical variable. Responses were recoded as 0= *Never*, 1= *Rarely*, 2= *Some of the time*, 3= *Most of the time*, 4= *All of the time*. Lastly, the dependent variable, being treated for hypertension, was a binary variable coded from the research question “The past twelve months, have you experienced or been treated for any

of the following - HIGH BLOOD PRESSURE OR HYPERTENSION?" Responses for this variable were recoded as 0= *no* and 1=*yes*.

**Table 1***Operationalization of Variables*

Variables	Measure	Response category	Variable type	Survey question
Problems getting along with someone at work		0= No 1= Yes	Independent, binary/dichotomous	In the past 12 months, did you have any serious ongoing problems getting along with someone at work?
Ongoing stress at work		0= No 1= Yes	Independent, binary/dichotomous	Have you had any other serious ongoing stress at work - things like consistently extreme work demands, major changes, or uncertainties that most people would consider highly stressful?
Coworker help/support		0= Never 1= Rarely 2= Some of the time 3= Most of the time 4= All of the time	Independent, ordinal/categorical	Please indicate how often each of the following is true of your job. - HOW OFTEN DO YOU GET HELP AND SUPPORT FROM YOUR COWORKERS?
Hypertension		0= No 1= yes	Dependent, binary/dichotomous	In the past twelve months, have you experienced or been treated for any of the following - HIGH BLOOD PRESSURE OR HYPERTENSION?
Ethnicity (Racial origins)	Non-White: Black, Native American or Alaska Native, Asian, Native Hawaiian, Other	0= white 1= non-white	Binomial	What are your main racial origins -- that is, what race or races are your parents, grandparents, and other ancestors? FIRST RESPONSE.
Age	Measured in years by age group with a range of 25-74*	1= 25-40 2= 41-55 3= 56-74	ordinal/ categorical	Respondent's calculated age

*Note.* \*Young adults = 25-40 yrs. old; Middle aged: 41-55 yrs. old; Older: 56-74 yrs. old.



### **Data Analysis Plan**

I analyzed the data for this research study by using the SPSS Version 25 statistical software. Given that the researchers of the MIDUS study cleaned and coded the SPSS dataset files, minimal data cleaning would be required for this project. However, before conducting the analyses for this study I thoroughly reviewed the data. Firstly, the data cleansing process included removing observations in the dataset that are unrelated to my study. Secondly, I recoded variables, as appropriate, so that they align with my research questions. Additionally, values within the dataset that are missing due to nonresponse were also removed. Thus, following these steps helped ensure that the data used for my project was consistent, valid, and reliable.

The logistic regression was the statistical test most appropriate to analyze the following research questions:

RQ1: Is there an association between not getting along with someone at work and being treated for hypertension among women workers (white vs nonwhite and young vs old)?

$H_{01a}$ : There is no association between not getting along with someone at work and being treated for hypertension among white vs nonwhite women workers.

$H_{11a}$ : There is an association between not getting along with someone at work and being treated for hypertension among white vs nonwhite women workers.

$H_{01b}$ : There is no association between not getting along with someone at work and being treated for hypertension among young vs old women workers.

$H_{11b}$ : There is an association between not getting along with someone at work and being treated for hypertension among young vs old women workers.

Statistical Plan for Research Question 1: The independent variable was not getting along with someone at work (0=*no*, 1=*yes*) and the dependent variable was being treated for hypertension (0=*no*, 1=*yes*). The null was rejected if there was a statistical significance,  $p \leq .05$ .

RQ2: Is there an association between coworker help/support and being treated for hypertension among women workers (white vs nonwhite and young vs old)?

$H_{02a}$ : There is no association between coworker help/support and being treated for hypertension among white vs nonwhite women workers.

$H_{12a}$ : There is an association between coworker help/support and being treated for hypertension among white vs nonwhite women workers.

$H_{02b}$ : There is no association between coworker help/support and being treated for hypertension among young vs old women workers.

$H_{12b}$ : There is an association between coworker help/support and being treated for hypertension among young and vs women workers.

Statistical Plan for Research Question 2: The independent variable was coworker help/ support (ordinal/categorical, 0= *Never*, 1= *Rarely*, 2= *Some of the time*, 3= *Most of the time*, 4= *All of the time*) and the dependent variable was being treated for hypertension (0=*no*, 1=*yes*). The null was rejected if there was a statistical significance,  $p \leq .05$ .

RQ3: Is there an association between ongoing stress at work and being treated for hypertension among women workers (white vs nonwhite and young vs old)?

$H_{03a}$ : There is no association between ongoing stress at work and being treated for hypertension among white vs nonwhite women workers.

$H_{13a}$ : There is an association between ongoing stress at work and being treated for hypertension among white vs nonwhite women workers.

$H_{03b}$ : There is no association between ongoing stress at work and being treated for hypertension among young vs old women workers.

$H_{13b}$ : There is an association between ongoing stress at work and being treated for hypertension among young vs old women workers.

Statistical Plan for Research Question 3: The independent variable was ongoing stress at work (0=*no*, 1=*yes*) and the dependent variable was being treated for hypertension (0=*no*, 1=*yes*). The null was rejected if there was a statistical significance,  $p < = .05$ .

The logistic regression was an appropriate statistical test to conduct for this study because the objective was to examine the association between independent variables (predictors) and a dichotomous or binary dependent variable (Bangdiwala, 2018). To use this logistic regression model there were other assumptions that needed to be met: (a) independent observations, (b) independent variables are not highly correlated (no multicollinearity among independent variables), (c) linearity of independent variables, and (d) large sample size. The results from this study were interpreted by using the odds ratio. Essentially, the odds ratio could be used to help determine whether certain

independent variables (ongoing stress, problems with someone at work, coworker help/support) could increase the odds or have an effect on being treated for hypertension (Persoskie & Ferrer, 2017). For example, an odds ratio that is greater than 1 suggests that there is a higher ‘odds’ and an outcome that is less than 1 means that there is a lower ‘odds.’ The results were considered statistically significant when the null hypothesis was rejected, and the  $p$  value was less than or equal to 0.05.

### **Threats to Validity**

A concept that is frequently referenced in a research study is validity. Validity is a term used to denote whether the findings of a research or research instrument was measured accurately (Andrade, 2018). There are three types of validity that should be considered: internal validity, external validity, and statistical conclusion validity (Andrade, 2018). Internal validity is based on whether a causal relationship between an independent variable (treatment) and dependent variable (outcome) can be determined in a study (Creswell & Creswell, 2018). External validity is the extent to which the results of the study can be generalized or applied to other populations, settings, time periods etc. (Creswell & Creswell, 2018). Also, statistical conclusion validity is based on whether reasonable or accurate conclusions can be made about the statistical data in a study (Creswell & Creswell, 2018). Yet, as it relates to this project there were factors that may pose a threat to internal, external, and statistical conclusion validity.

Firstly, a threat to internal validity suggests that conclusions or inferences about the results of the study may be compromised or biased (Andrade, 2018). For example, selection bias is an internal validity threat in which the selection of participants in a study

is not random and unrepresentative of the population. The survey data used in this study addressed these threats by implementing a simple random sampling frame when drawing cellphone and landline numbers. Secondly, a threat to statistical conclusion validity means that inaccurate conclusions can be made about the relationships in the study. A statistical conclusion validity and internal validity is experimenter bias, which indicates that the behavior or personal characteristics of the researcher may influence the response(s) of study participants (Creswell & Creswell, 2018). The researchers in this study addressed this threat by blindly monitoring interviewers to ensure that they were following protocol and standardizing interview techniques.

A threat to external validity is based on the notion that the results of the study cannot be generalized. Examples of external validity threats include selection bias and experimenter bias, which are aforementioned. The Refresher study improved these threats by integrating an inclusion and exclusion criteria of participants in order to adequately define the population under study. For instance, participants that were eligible for the study had to live in residential units, speak English, and between the ages of 25 to 74. An additional threat worth noting includes nonresponse which is likely present in secondary data. To address this issue, the researchers that conducted this survey weighted the sampling data.

### **Ethical Procedures**

The MIDUS Refresher data is available for public use with no access restrictions via the Inter-university Consortium for Political and Social Research (ICPSR) website. To download and obtain the dataset, individuals are required to register an account with

ICPSR, and also acknowledge and cite that the dataset was used for research. The respondent's identification was de-identified in the dataset. The researchers in the MIDUS Refresher study obtained copies of Certificates of Confidentiality from the federal government and provided them to participants that had privacy concerns. Interviewers in the study were thoroughly trained and monitored. Additionally, the data and audio recordings that were collected were disseminated between researchers through a secured shared drive. In turn, the electronic data downloaded for this project was stored on a password protected personal computer by the principal investigator.

The Walden University's Institutional Review Board (IRB) approved that the use of the MIDUS Refresher dataset met the required ethical standards and procedures for this study (Walden IRB Approval Number 02-02-21-0977628).

### **Summary**

In summary, I used a quantitative cross-sectional research design to examine the associations between ongoing stress, problems getting along with someone at work, coworker help/support and being treated for hypertension among women workers. Variables/research questions that were relevant to this project were referenced from the 2011-2014 MIDUS Refresher study. The MIDUS Refresher dataset included a national probability sample that was representative of adults living in the United States. To test the research questions in this study I used a binary logistic regression. By performing this statistical test, I could determine whether certain factors (predictors) in the workplace increase the odds of being treated for hypertension, particularly among young minority women. In Section 3, I will present the study findings and results in detail.

### Section 3: Presentation of the Results and Findings

#### **Introduction**

The purpose of this study was to (a) examine the association between job stress, coworker/help support, not getting along with someone at work, and being treated for hypertension among women workers, to (b) determine if these factors would be more significant among young minority women. The research questions that guided this study include the following:

RQ1: Is there an association between not getting along with someone at work and being treated for hypertension among women workers (white vs nonwhite and young vs old)?

$H_{01a}$ : There is no association between not getting along with someone at work and being treated for hypertension among white vs nonwhite women workers.

$H_{11a}$ : There is an association between not getting along with someone at work and being treated for hypertension among white vs nonwhite women workers.

$H_{01b}$ : There is no association between not getting along with someone at work and being treated for hypertension among young vs old women workers.

$H_{11b}$ : There is an association between not getting along with someone at work and being treated for hypertension among young vs old women workers.

RQ2: Is there an association between coworker help/support and being treated for hypertension among women workers (white vs nonwhite and young vs old)?

$H_{02a}$ : There is no association between coworker help/support and being treated for hypertension among white vs nonwhite women workers.

*H<sub>12a</sub>*: There is an association between coworker help/support and being treated for hypertension among white vs nonwhite women workers.

*H<sub>02b</sub>*: There is no association between coworker help/support and being treated for hypertension among young vs old women workers.

*H<sub>12b</sub>*: There is an association between coworker help/support and being treated for hypertension among young and vs women workers.

RQ3: Is there an association between ongoing stress at work and being treated for hypertension among women workers (white vs nonwhite and young vs old)?

*H<sub>03a</sub>*: There is no association between ongoing stress at work and being treated for hypertension among white vs nonwhite women workers.

*H<sub>13a</sub>*: There is an association between ongoing stress at work and being treated for hypertension among white vs nonwhite women workers.

*H<sub>03b</sub>*: There is no association between ongoing stress at work and being treated for hypertension among young vs old women workers.

*H<sub>13b</sub>*: There is an association between ongoing stress at work and being treated for hypertension among young vs old women workers.

In this section, I outline the data collection process which includes the timeframe, descriptive, and demographic characteristics of the sample. This is followed by the results of the descriptive statistics and statistical analysis. This section concludes with the summary of the results for each research question.



### **Data Collection of Secondary Data Set**

The MIDUS Refresher survey is a public use data that was conducted between 2011-2014 by the University of Wisconsin which consisted of a phone interview and two SAQs or surveys that respondents were required to complete on their own. The Refresher study is a part of a series of longitudinal MIDUS studies that was primarily developed to replenish or refresh the original MIDUS study sample in 1995/1996. The dataset includes two independent samples of English-speaking adults ( $N = 3,577$ ) living in residential housing in the United States aged 25 to 74. The national probability samples were collected by MRY between 2011-2012, which included 2,100 adults aged 25 to 54, and 1,400 adults between 2013-2014 aged 55 to 74 among the MRO. By racial demographics, roughly 82% of participants were White, 8% were Black and/or African American, 2% were Native American or Alaska Native Aleutian Islander/Eskimo, 1% were Asian, 0.1% were Native Hawaiian or Pacific Islander, and 7% identified as Other. Out of 3,577 individuals, 1856 (52%) of the sample were women. Respondents were recruited through random digit dialing by cellphones and landlines. Phone interviews had a 59% response rate and participants that completed the SAQ had a 73% response rate.

### **Discrepancies**

There were three discrepancies from the data analysis plan outlined in Section 2. Firstly, instead of performing only the binary logistic regression, two regression models were performed to analyze the research questions. For the first model I performed the binary logistic regression to predict if there was a relationship between each independent variable and the dependent variable. For the second model I conducted the multinomial

logistic regression to adjust for the variables age and race. Additionally, the second discrepancy from the data analysis plan was that the variable age was recoded differently. The age range for middle aged adults was changed from 41-55 years old to 41-60 years old so that it was more representative of the middle-aged demographic sampled in the MIDUS study. The third discrepancy from the plan described in Section 2 was that independent and dependent variables were not recoded given that only valid responses (i.e., yes, or no) were included for analysis.

### **Baseline Descriptive and Demographic characteristics**

The population of interest for this study was women workers. Out of the 1856 women surveyed in the Refresher study, 932 were women workers. For instance, Table 2 shows that 50.2% of women worked. The proportion of women workers by race and age is outlined in Table 3 and Table 4, respectively. As noted in the data analysis plan, race was recoded as White and non-White; non-White included respondents that identified as Black and/or African American, Native American, or Alaska Native Aleutian Islander/Eskimo, Asian, Native Hawaiian or Pacific Islander and Other. Women workers that did not answer whether they were White, or non-White were excluded and considered system-missing. Out of 932 women workers, 925 women were either White or non-White with 737 (79.7%) identifying as White and 188 (20.3%) identifying as Non-White. The variable age was recoded and categorized by groups: young adults (aged 25-40 years old), Middle aged adults (aged 41-60 years old) and older adults (aged 61-74 years old). Among women workers, 345 (37.2%) were young adults, 444 (47.8%) middle

aged and 139 (15.0%) were older. Like race, women workers that were not between the ages of 25-74 years old were not included and considered system-missing.

**Table 2**

*Frequency and Percentage of Women Workers*

		<i>N</i>	Percentage %
Working	YES	932	50.2%
	NO	770	41.5%
	DON'T KNOW	0	0.0%
	REFUSED	1	0.1%
	INAPP	153	8.2%
	Total	1856	100.0%

**Table 3**

*Women Workers by Race*

		<i>N</i>	Percentage %	Valid %
Valid	white	737	79.1	79.7
	nonwhite	188	20.2	20.3
	Total	925	99.2	100.0
Missing	System	7	.8	
Total		932	100.0	

**Table 4**

*Women Workers by Age*

		<i>N</i>	Percentage %	Valid %
Valid	Young Adults	345	37.0	37.2
	Middle aged	444	47.6	47.8
	Older	139	14.9	15.0
	Total	928	99.6	100.0
Missing	System	4	.4	
Total		932	100.0	

## Results

### Descriptive Statistics for Independent and Dependent Variables

Tables 5 and 6 detail the frequencies and valid responses of the independent variables (problem with someone at work, ongoing stress at work, and coworker help/support) and dependent variable (being treated for hypertension) used in this study, respectively. Firstly, for problem with someone at work, approximately 67% of responses were valid ( $N = 628$ ). The majority of women workers reported that they did not have a problem with someone at work ( $n = 552$ , 87.9%). Secondly, for ongoing stress at work, roughly 67% of responses were valid ( $N = 629$ ). Out of 629 women workers, 286 (45.5%) answered that they have ongoing stress at work and only slightly more women workers reported that they did not have ongoing stress at work ( $n = 343$ , 54.5%). For the third independent variable, coworker help/support, 612 (66%) of responses were valid. Nearly  $\frac{3}{4}$  of women workers reported that they have coworker help/support most of time ( $n = 234$ , 38.2%) and some of the time ( $n = 212$ , 34.6%). Lastly, as shown in table 6, 71.4% ( $n = 665$ ) of responses were valid for being treated for hypertension. Out of 665 women workers 534 (80.3%) reported that they were not treated for hypertension and 131 (19.7%) reported that they were treated for hypertension.

**Table 5***Frequency and Percentages of Independent Variables*

Independent Variable		N	Percentage %	Valid %
<b>Problem with someone at work</b>				
Valid	YES	76	8.2	12.1
	NO	552	59.2	87.9
	Total	628	67.4	100.0
Missing	RESPONDENT DOES NOT HAVE SAQ DATA	260	27.9	
	REFUSED	8	.9	
	INAPP	36	3.9	
	Total	304	32.6	
	Total	932	100.0	
<b>Ongoing stress at work</b>				
Valid	YES	286	30.7	45.5
	NO	343	36.8	54.5
	Total	629	67.5	100.0
Missing	RESPONDENT DOES NOT HAVE SAQ DATA	260	27.9	
	REFUSED	7	.8	
	INAPP	36	3.9	
	Total	303	32.5	
	Total	932	100.0	
<b>Coworker help/support</b>				
Valid	ALL OF THE TIME	105	11.3	17.2
	MOST OF THE TIME	234	25.1	38.2
	SOME OF THE TIME	212	22.7	34.6
	RARELY	55	5.9	9.0
	NEVER	6	.6	1.0
	Total	612	65.7	100.0
Missing	RESPONDENT DOES NOT HAVE SAQ DATA	260	27.9	
	DOES NOT APPLY	31	3.3	
	REFUSED	11	1.2	
	INAPP	18	1.9	
	Total	320	34.3	
	Total	932	100.0	

**Table 6***Frequency and Percentage of Dependent Variable*

High blood pressure/hypertension ever (12 months)		<i>N</i>	Percentage %	Valid %
Valid	YES	131	14.1	19.7
	NO	534	57.3	80.3
	Total	665	71.4	100.0
Missing	RESPONDENT DOES NOT HAVE SAQ DATA	257	27.6	
	REFUSED	10	1.1	
	Total	267	28.6	
	Total	932	100.0	

**Statistical Assumptions***Logistical Regression*

The binary and multinomial logistic regression models were chosen to determine whether the independent variables in this study (job stress, coworker/help support, and not getting along with someone at work) predict the outcome or dependent variable (being treated for hypertension). However, to perform the regression models there were seven assumptions that were taken into consideration to ensure that the results would be valid. The first two assumptions were that the dependent variable should be nominal and that the independent variables are either continuous, ordinal, or nominal (Bangdiwala, 2018). Both assumptions were satisfied as the dependent variable in this study was measured at the nominal level (dichotomous) and the independent variables were ordinal or nominal. Like the first two assumptions, assumptions three and four addresses the design of the study. This study met assumption three since the categories (i.e., yes or no

responses) of the independent and dependent variables were not related and mutually exclusive. Additionally, for assumption four there were more than 50 cases for each independent variable (Bangdiwala, 2018).

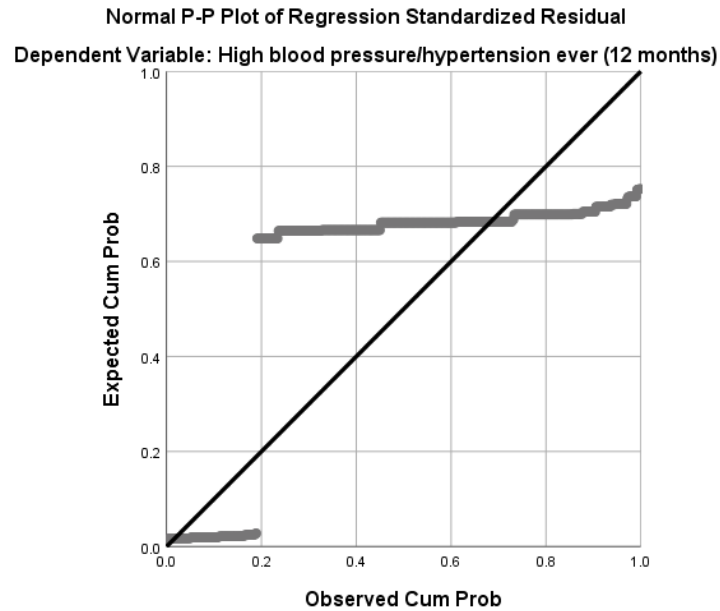
The last three assumptions relate to how well the dataset fits the regression models. In a binary and multinomial regression, it is assumed that there is no multicollinearity or outliers (Bangdiwala, 2018). To test for multicollinearity, I checked the variance of inflation values (VIF) and standard errors for each independent variable outlined in Table 7 (Josephat & Ame, 2018). I found that the VIF values were below the recommended value of 5 and the standard errors were less than 2, so this assumption was not violated (Josephat & Ame, 2018). The *P-P* plot shown in Figure 1 was used to determine whether there were outliers. Although, outliers can be found, there was only a slight deviation, so normality can be assumed. Lastly, there is an assumption that a linear relationship exists between continuous independent variables and the log odds of the dependent variable (Josephat & Ame, 2018). However, this assumption was not applied to this study as there were no continuous variables used for this research.

**Table 7***Coefficients*

		Unstandardized		Standardized		95.0%		Collinearity	
		Coefficients		Coefficients		Confidence		Statistics	
						Interval for B			
		Std.				Lower		Upper	
Model		B	Error	Beta	t	Sig.	Bound	Bound	Tolerance
1	(Constant)	1.801	.117		15.445	.000	1.572	2.030	
	Problem with someone at work (12 months)	.043	.052	.036	.820	.413	-.060	.145	.920
	Other ongoing stress at work (12 months)	-.017	.034	-.022	-.507	.613	-.084	.049	.928
	Coworker help/support	-.019	.019	-.043	-1.013	.312	-.055	.018	.970
									1.086
									1.077
									1.031

*Note.* Dependent Variable: High blood pressure/hypertension ever (12 months)



**Figure 1***P-P Plot of Variables***Research Question 1*****Binary Logistic Regression***

A binary logistic regression was conducted to determine the effect of not getting along with someone at work and the likelihood that women workers have hypertension. Tables 8 and 9 shows that the model explained 0% (Nagelkerke  $R^2$ ) of the variance in hypertension and correctly classified 80% of cases. The logistic regression model was not statistically significant ( $p > 0.05$ , Table 10). Therefore, not getting along with someone at work does not significantly predict the odds of women workers being treated for hypertension ( $OR = 0.920$ , 95% CI [0.510-1.661],  $p = .783$ , Wald = .076).

**Table 8***Model Summary for Problem with Someone at Work*

Step	-2 Log likelihood	Cox-Snell $R^2$	Nagelkerke $R^2$
1	617.99 <sup>a</sup>	.000	.000

*Note.* <sup>a</sup>. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

**Table 9***Classification Table for Problem with Someone at Work*

			Predicted		
			High blood pressure/hypertension ever (12 months)		Percentage Correct
	Observed		YES	NO	
Step 1	High blood pressure/hypertension ever (12 months)	YES	0	123	.0
		NO	0	496	100.0
	Overall Percentage				80.1

*Note.* The cut value is .500

**Table 10***Binary Logistic Regression for Hypertension and Problem with Someone at Work*

	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>Exp(B)</i>	95% C.I. for <i>EXP(B)</i>	
							Lower	Upper
Problem with someone at work (12 months)(1)	-.083	.301	.076	1	.783	.920	.510	1.661
Constant	1.405	.108	169.554	1	.000	4.075		

**Research Question 2***Binary Logistic Regression*

For research question 2, a binary logistic regression was conducted to determine the effect of coworker help/support and the likelihood that women workers have hypertension. Tables 11 and 12 illustrates that the model explained 0.8% (Nagelkerke  $R^2$ ) of the variance in hypertension and correctly classified 81.1% of cases. Like the previous two research questions, the logistic regression model was not statistically significant ( $p > 0.05$ , Table 13). Therefore, coworker support did not significantly predict the odds of women workers being treated for hypertension.

**Table 11***Model Summary for Coworker help/support*

Step	-2 Log likelihood	Cox-Snell $R^2$	Nagelkerke $R^2$
1	528.097 <sup>a</sup>	.005	.008

*Note.* <sup>a</sup>. Estimation terminated at iteration number 4 because parameter estimates changed

by less than .001.

**Table 12***Classification Table for Coworker help/support*

			Predicted		Percentage Correct
			High blood pressure/hypertension ever (12 months)		
	Observed		YES	NO	
Step 1	High blood pressure/hypertension ever (12 months)	YES	0	114	.0
		NO	0	490	100.0
	Overall Percentage				81.1

*Note.* The cut value is .500

**Table 13***Binary Logistic Regression for Hypertension and Coworker help/support*

	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>Exp(B)</i>	95% C.I. for <i>EXP(B)</i>	
							Lower	Upper
Coworker help/support			3.084	4	.544			
Coworker help/support(1)	.000	1.127	.000	1	1.000	1.000	.110	9.109
Coworker help/support(2)	.005	1.110	.000	1	.996	1.005	.114	8.849
Coworker help/support(3)	-.381	1.108	.118	1	.731	.683	.078	5.991
Coworker help/support(4)	-.105	1.150	.008	1	.927	.900	.095	8.571
Constant	1.609	1.095	2.159	1	.142	5.000		

**Research Question 3***Binary Logistic Regression*

For research question 3, a binary logistic regression was conducted to determine the effect of ongoing stress at work and the likelihood that women workers have hypertension. As shown in Table 14 and 15 the model explained 0% (Nagelkerke  $R^2$ ) of the variance in hypertension and correctly classified 80.2% of cases. The logistic regression model was not statistically significant ( $p > 0.05$ , Table 16). Therefore, ongoing stress at work did not significantly predict the odds of women workers being treated for hypertension ( $OR = 1.186$ , 95% CI [0.796-1.767],  $p = .402$ ,  $Wald = .701$ ).

**Table 14***Model Summary for Ongoing Stress at Work*

Step	-2 Log likelihood	Cox-Snell $R^2$	Nagelkerke $R^2$
1	617.012 <sup>a</sup>	.001	.002

*Note.* <sup>a</sup>. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

**Table 15***Classification Table for Ongoing Stress at Work*

			Predicted		
			High blood pressure/hypertension ever (12 months)		Percentage Correct
	Observed		YES	NO	
Step 1	High blood pressure/hypertension ever (12 months)	YES	0	123	.0
		NO	0	497	100.0
	Overall Percentage				80.2

*Note.* The cut value is .500

**Table 16***Binary Logistic Regression for Hypertension and Ongoing Stress at Work*

	<i>B</i>	<i>S.E.</i>	<i>Wald</i>	<i>df</i>	<i>Sig.</i>	<i>Exp(B)</i>	95% C.I. for <i>EXP(B)</i>	
							Lower	Upper
Other ongoing stress at work (12 months)(1)	.170	.203	.701	1	.402	1.186	.796	1.767
Constant	1.321	.134	97.768	1	.000	3.746		

**Multinomial Logistic Regression**

I conducted a multinomial logistic regression to evaluate the prediction of being treated for hypertension from problem with someone at work, ongoing stress at work and coworker help/support while controlling for age and race. Table 17 displays the model fitting information, which can be used to assess whether the model fits the data. For the full model, the  $p$  value was statistically significant ( $X^2(8) = 61.560$ ,  $p < 0.05$ ) which suggests that the model was statistically significant to predict being treated for hypertension compared to the intercept only model where no variables are added.

**Table 17***Model Fitting Information*

Model	Model Fitting			
	Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	<i>df</i>	<i>Sig.</i>
Intercept Only	210.551			
Final	148.992	61.560	8	.000

Table 18 illustrates which of the variables were statistically significant. Based on the results, age was statistically significant ( $p < 0.05$ ) and contributed to the model. All other variables were not statistically significant ( $p > 0.05$ ) and did not contribute to the model. Therefore, in Table 19 the parameter estimates for age was only outlined. Across age groups, the odds for being treated for hypertension was 3.43 times more likely for older women workers than young adult women workers.



**Table 18***Likelihood Ratio Tests*

Effect	Model Fitting			
	Criteria	Likelihood Ratio Tests		
	-2 Log			
	Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	148.992 <sup>a</sup>	.000	0	.
age group	205.260	56.268	1	.000
Race	150.577	1.586	1	.208
Problem with someone at work (12 months)	149.683	.691	1	.406
Other ongoing stress at work (12 months)	149.143	.151	1	.698
Coworker help/support	154.608	5.617	4	.230

*Note.* The chi-square statistic is the difference in -2 log-likelihoods

between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

<sup>a</sup>. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

**Table 19***Parameter Estimates for Hypertension and Age*

								95% Confidence Interval for Exp(B)	
High blood pressure/hypertension ever (12 months) <sup>a</sup>		<i>B</i>	Std. Error	Wald	<i>df</i>	Sig.	Exp(B)	Lower Bound	Upper Bound
YES	Intercept	-3.389	1.235	7.527	1	.006			
	age group	1.233	.176	48.877	1	.000	3.433	2.429	4.851

*Note.* <sup>a</sup> The reference category is: NO.

### Summary

In the binary logistic regression models for research questions 1 through 3, the independent variables (job stress, coworker/help support, and not getting along with someone at work) were not found to be significant predictors for being treated for hypertension among women workers. The multinomial regression model was tested to address the variables race and age. Although, age was statistically significant, the *p* values for the predictors overall were not statistically significant. Therefore, I failed to reject the null hypothesis for research questions 1 through 3 and concluded that there is no statistically significant association between the predictors and being treated for hypertension among women workers (nonwhite vs white and young vs old).

In Section 4, I will further discuss the analyses and provide an interpretation of the results in addition to its relevance to existing research. I will also detail the

limitations, recommendations, implications for social change, and conclude with an overall summary of this study.

## Section 4: Application to Professional Practice and Implications for Social Change

### Introduction

For this study I investigated the relationship between job factors (problem with someone at work, ongoing stress at work, coworker help/support) and being treated for hypertension among women workers in the United States. Interpersonal conflict or mistreatment in the workplace often occurs in stressful work environments, which could potentially lead to poor employee health outcomes such as hypertension. However, there is limited research on whether these predictors (problem with someone at work, ongoing stress at work, coworker help/support) are associated with hypertension among minority women in younger populations. Thus, the purpose of this study was to close this research gap.

I used the MIDUS Refresher 2011-2014 survey dataset to measure the association between the independent variables (problem with someone at work, ongoing stress at work, coworker help/support) and dependent variable (being treated for hypertension). A binary logistic regression was conducted to examine if there was a relationship between the independent variables and dependent variable. Also, a multiple logistic regression was used to adjust for age and race. The results outlined in Section 3 show that there was no statistical significance for problems with someone at work ( $OR = 0.920$ , 95% CI [0.510, 1.661],  $p > .05$ , [Table 10]), coworker help/support ( $p > 0.05$ , Table 13), and ongoing stress at work ( $OR = 1.186$ , 95% CI [0.796, 1.767],  $p > .05$ , [Table 16]). For the demographic factors, age had a significant positive effect ( $OR = 3.433$ , 95% CI [2.429,

4.851],  $p < 0.05$ , [Table 19]). Older women workers had a greater likelihood of being treated with hypertension compared to younger.

### **Interpretation of Findings**

In Section 1 of this study, I explained that studies have not collectively examined the role that workplace determinants such as interpersonal conflict, coworker support, and stress may play on hypertension among young minority women. Minority groups are particularly understudied in workplace bullying research (Attell et al., 2017). Thus, identifying whether these factors could have an influence on minority women being treated for hypertension could provide additional insight.

The findings of this study revealed that problem with someone at work, coworker help/support and ongoing stress at work were not significant predictors for being treated for hypertension. Race was also not a factor in being treated for hypertension. Yet, it is important to note that the majority of women workers in this study were white (80%) so it is unclear how the predictors in this study would impact most minority women workers. Additionally, consistent with research in the literature, age was associated with being treated for hypertension, particularly among women workers in older age groups (Buford, 2016).

### **Problem with Someone at Work**

Interpersonal conflict in the workplace could have a negative health impact on workers. Researchers Jacob & Kostev (2017) discovered that when bullying is present in the workplace, an employee may be more likely at risk for hypertension. Due to the

repetitive nature of workplace bullying or conflict over time, stressors such as these may cause workers to experience elevated blood pressure (Jacob & Kostev, 2017).

However, contrary to what was found in the literature, the findings in this study showed that having a problem with someone at work was not associated with being treated for hypertension. Yet, out of the valid responses for this research, 76 (12.1%) women workers reported that they had a problem with someone at work. Although, this study could not find a relationship between conflict and hypertension, the *yes* responses for this variable suggests that conflict in the workplace could be an issue for some women workers.

### **Ongoing Stress at Work**

In several research studies, researchers have underscored that work climates or conditions that are stressful could pose a health risk. Individuals that work in stressful environments often experience uncertainty, high job demand, as well as conflict (Vishwakarma et al., 2018). Due to this repeated job stress, workers can potentially suffer from heart complications (Mucci et al., 2016). My research found that there was no relationship between ongoing job stress at work and hypertension. Despite this finding, almost ½ of the women workers in this study reported that they experience ongoing stress at work. Even though hypertension was not a predicted outcome, ongoing stress at work was however a reported work-related problem for the women workers sampled in this study.

**Coworker Help/Support**

Poor working relationships such as lack of support is a possible risk factor for poor health (Tews et al., 2018). For example, Baethge et al. (2020) argued that employees with more coworker support have greater physiological resilience which is associated with better cardiovascular health. With my results I cannot confirm their argument, but I did not find any evidence to contradict their argument either. This could be because 75% of women workers in this study reported they had coworker help/support. However, unlike studies such as Trépanier et al. (2016) my research did not focus on a job sector or industry like nursing, where poor working relationships or conflict may more likely be present.

**Race and Age**

Race and age are considered risk factors for hypertension. Studies have shown that minority women and older adults are more likely to develop hypertension (Oliveros et al., 2020; Wegner et al., 2019). Yet, hypertension is just as common in younger adults (Hinton et al., 2019). Similarly, in respect to the workplace, minority women were more likely experience lack of coworker support, job stress and mistreatment (Attell et al., 2017). I examined whether race and age were contributing factors between these job stressors and hypertension. Based on the results, race was not a predictor for hypertension. Also, contrary to findings in current research, the results of this study did not support that minority women workers were more likely to be treated for hypertension (Wegner et al., 2019). However, 80% of participants in this study were white women workers. Unlike race, age was a significant predictor for hypertension. Aligned with the

literature, the results showed that older women workers were more likely to be treated for hypertension (Oliveros et al., 2020; Wegner et al., 2019).

### **Findings for Theoretical Framework**

For this research, I referenced the SCT and SDT. As it applies to the SCT, I considered the role that the work environment plays in employee behavior. Additionally, in respect to the SDT I took into account how the workplace reinforces group-based hierarchies. I will discuss the findings within the context of both theories.

### **Social Cognitive Theory**

A component of the SCT that was used in this study was observational learning. I referenced this concept to consider how individuals replicate the behavior that they observe by others (Coetzee & van Dyk, 2018). When conflict is present in the workplace it could have a negative influence on the environment and behavior of employees, which could lead to poor health outcomes (Consiglio, Borgogni, Di Tecco, & Schaufeli, 2016). Based on the results of this research, not getting along with someone at work, ongoing stress at work and coworker help/support were not predictors for hypertension. Although, roughly ½ of the sample reported that they experienced ongoing job stress, most participants did not report having problems with someone at work. Additionally, about 75% of women workers in this study reported that they received coworker help/support either most or some of the time. Thus, the findings of this research confirmed this theory used by prior researchers to suggest that supportive relationships within the workplace could contribute to a positive work environment and healthier workers as a result (Consiglio et al., 2016).



### **Social Dominance Theory**

The SDT is based on the notion that organizations could perpetuate hierarchies or inequalities by groups (Goodboy et al., 2016). Certain groups may have dominance over others in the workplace. Due to social constructs minorities are often considered subordinate and face poorer health and more stressors such as low job control (Richeson & Sommers, 2015). As it applies to this study, SDT was used to examine the relationship between these factors and hypertension. The results of this research did not support this theory and found that problem with someone at work, ongoing stress at work and coworker help/support were not predictors for hypertension. Although, age was a significant predictor of being treated for hypertension, race was not associated with hypertension. However, this study did not consider job position or sector. For example, in other studies like De Cieri et al. (2019) researchers supported this theory of power imbalance among employees in the healthcare sector and found that workers were often bullied by their supervisors or colleagues. Similarly, researchers Baillien et al. (2017) considered a worker's job position and found that victims of workplace conflicts were more likely in inferior positions.

### **Limitations of Study**

There were several limitations of this study to acknowledge. First, for this research a cross-sectional design was selected for analysis. Although, a cross-sectional design is practical to use causal relationships between variables cannot be determined (Bangdiwala, 2016). Additionally, when implementing a cross-sectional study design there is the likelihood of bias such as recall bias (Setia, 2016). Recall bias is particularly

common when respondents have to self-report information like in a self-administered questionnaire. In this case, participants may likely not recall or remember an event/experience.

Furthermore, there were limitations to this study because a secondary dataset was used. When using the MIDUS dataset for this research there were missing values. The surveyors designated a response as a missing value if the respondent did not have a SAQ, the survey question did not apply to the respondent, or the respondent refused to answer the survey question. Another limitation of this study was that only 20% of respondents identified as nonwhite. Due to the low participation of nonwhite respondents, the results may not necessarily apply to racial/ethnic minorities.

However, despite these limitations it is worth noting the following. As it relates to the missing values, the missing values in the dataset did not affect the power of the study. In respect to the dataset and study design, the dataset included a national probability sample. Also, researchers that use a cross-sectional design could study the association of multiple outcomes and risk factors (Setia, 2016). Most importantly, in the public health discipline this study design is useful for evaluating programs and distributing resources for communities in need (Bangdiwala, 2016).

### **Recommendations**

Based on the results of the study, there are a few recommendations to consider for future research. First, there was no significant association between the predictors and hypertension, particularly when adjusting for race/ethnicity. As it relates to race, most participants identified as white. Thus, a recommendation for future researchers is to

sample participants from different racial/ethnic groups. As noted in the current literature outlined in Section 1, participation from minority groups is particularly limited in research that explores workplace mistreatment or bullying (McCord et al., 2018; Fekedulegn et al., 2019). Additionally, there is limited information on how stressors in the workplace impacts the cardiovascular health of young adults (Mucci et al., 2016). Therefore, if this study included an equally diverse population, the results may have differed.

For the purposes of this study, a cross-sectional design was chosen as it was convenient and relatively quick to employ. However, another recommendation for future studies is to implement a longitudinal design. For example, based on what was discussed in Section 1, interpersonal conflict is repeated behavior and job stress occurs over time. By using a longitudinal study, researchers could better understand how the variables in this study may change over time.

Another recommendation would be to study different factors that may impact the relationship between job stressors and hypertension among minority women. Some of which may include exploring the variables in this study among women that work in particular job positions or job sectors. As described in Section 1, workers in healthcare and roles with less autonomy have higher instances of workplace mistreatment (Trépanier et al., 2016). Also, researchers could consider the role of socioeconomic status. Minority women are likely to have socioeconomic disadvantages which could potentially impact their health (Felix et al., 2019). By including these factors researchers may have further context on the association between job stressors and hypertension.

## **Implications for Professional Practice and Social Change**

### **Professional Practice**

Hypertension is one of the leading causes of death in the United States. It is also a chronic disease that could be attributed to a person's lifestyle and behavior (Williams et al., 2021). Given that the workplace is an integral part of an individual's life it will require public health professionals to identify ways in which it could be prevented. Job stressors outlined in this study such as stress and interpersonal conflict could be a precursor to hypertension. However, given that there were no significant findings in this research recommendations could include further education and health promotion within the workplace. For example, programs could recognize that job stressors could lead to possible health consequences. Additionally, workplace policies that reinforce collaboration and mitigating conflict could be a potential start.

### **Positive Social Change**

The results from this research could potentially impact positive social change at the individual, family, organizational and societal/policy levels. At the individual level, women workers would become more informed but also further their knowledge about the potential health implications, like hypertension, of interpersonal conflict and job stress. Women workers could empower themselves by developing strategies to combat these workplace issues. Strategies may include practicing healthy lifestyle behaviors through exercise or building social support. Thus, at the family level, women workers could share this information so that family members as well as people within their communities are not only aware but also provide that source of support.

Lastly, at both the organizational and societal level it is important for workplace organizations to acknowledge and create stronger work policies that provide resources and protect workers from hostile and high stress environments. This may also involve encouraging employees to work together and resolve conflicts. At the societal level, hypertension, not only disproportionately impacts minority women but also at an earlier onset (Wegner et al., 2019). Additionally, minority women are likely to report mistreatment, more stress, and less coworker help/support in the workplace (Attell et al., 2017; McCord et al., 2018). It is, therefore, imperative that public health professionals and researchers gain insight on how the workplace could contribute to these outcomes and acknowledge that the experiences that minority women have in the workplace should not be overlooked.

### **Summary**

Several studies have examined the role that job stress and interpersonal conflict in the workplace may have on hypertension among women. However, I explored collectively the association between getting along with someone at work, job stress, coworker support and hypertension among minority women, especially at younger age groups. Although, I did not find a significant association it does however reveal that further study is required. A study that includes more minority and younger participants could help explain whether a true relationship exists. The findings from this study also show that more research is needed to identify what factors in the workplace may contribute to hypertensive outcomes among minority women. Yet, along with other

studies, this research emphasizes the importance of developing interventions in order to mitigate racial health disparities in the workplace.

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